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## RAW SEQUENCE LISTING

DATE: 07/19/2001

PATENT APPLICATION: US/09/869,677

TIME: 12:24:21

Input Set : A:\N75768A WO GCW SER DP seq listing Dec99.txt

Output Set: N:\CRF3\07192001\I869677.raw

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4 <110> APPLICANT: BJORCK, Lars
5   JANULCZYK, Robert
7 <120> TITLE OF INVENTION: STREPTOCOCCAL ABC TRANSPORTER PROTEIN
9 <130> FILE REFERENCE: 100084.416USPC
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/869,677
C--> 12 <141> CURRENT FILING DATE: 2001-06-29
14 <150> PRIOR APPLICATION NUMBER: PCT/GB99/04445
15 <151> PRIOR FILING DATE: 1999-12-30
17 <150> PRIOR APPLICATION NUMBER: GB 9828880.6
18 <151> PRIOR FILING DATE: 1998-12-31
20 <160> NUMBER OF SEQ ID NOS: 9
22 <170> SOFTWARE: PatentIn Ver. 2.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 893
26 <212> TYPE: DNA
27 <213> ORGANISM: Streptococcus pyogenes
29 <220> FEATURE:
30 <221> NAME/KEY: CDS
31 <222> LOCATION: (1)..(861)
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35 Ser Ser Thr Gly Ala Lys Thr Ala Lys Ser Asp Lys Leu Lys Val Val
36 1 5 10 15
37 gca acc aat tca att att gcc gac atg aca aaa gct att gct ggt gat   96
38 Ala Thr Asn Ser Ile Ile Ala Asp Met Thr Lys Ala Ile Ala Gly Asp
39 20 25 30
40 aaa atc gat ctg cac agc att gtg cca atc ggt caa gac cct cat gag   144
41 Lys Ile Asp Leu His Ser Ile Val Pro Ile Gly Gln Asp Pro His Glu
42 35 40 45
43 tac gaa cca tta cca gaa gat gct gaa aaa aca agt aat gct gat gtg   192
44 Tyr Glu Pro Leu Pro Glu Asp Ala Glu Lys Thr Ser Asn Ala Asp Val
45 50 55 60
46 att ttc tat aat ggt atc aat cta gaa gat ggc ggg caa gct tgg ttc   240
47 Ile Phe Tyr Asn Gly Ile Asn Leu Glu Asp Gly Gly Gln Ala Trp Phe
48 65 70 75 80
49 acc aaa cta gtg aaa aat gct caa aaa acg aaa aac aaa gat tac ttt   288
50 Thr Lys Leu Val Lys Asn Ala Gln Lys Thr Lys Lys Asn Lys Asp Tyr Phe
51 85 90 95
52 gcc gtg tct gat ggc att gat gtg att tac ttg gaa ggt gca agc gaa   336
53 Ala Val Ser Asp Gly Ile Asp Val Ile Tyr Leu Glu Gly Ala Ser Glu
54 100 105 110
56 aaa gga aaa gaa gat cca cat gct tgg tta aat ctc gaa aac gga atc   384
57 Lys Gly Lys Glu Asp Pro His Ala Trp Leu Asn Leu Glu Asn Gly Ile
58 115 120 125
59 att tat tca aaa aac att gcc aaa caa ttg att gca aag gat cct aaa   432
60 Ile Tyr Ser Lys Asn Ile Ala Lys Gln Leu Ile Ala Lys Asp Pro Lys
61 130 135 140

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62 aac aaa gaa act tat gaa aag aac cta aaa gct tat gtg gct aaa ttg      480
63 Asn Lys Glu Thr Tyr Glu Lys Asn Leu Lys Ala Tyr Val Ala Lys Leu
64 145                               150                               155                               160
65 gaa aaa cta gac aaa gaa gcc aaa tca aaa ttt gat gct att gca gaa      528
66 Glu Lys Leu Asp Lys Glu Ala Lys Ser Lys Phe Asp Ala Ile Ala Glu
67                               165                               170                               175
68 aat aaa aaa ttg att gtg act agt gaa ggc tgc ttc aag tac ttt tca      576
69 Asn Lys Lys Leu Ile Val Thr Ser Glu Gly Cys Phe Lys Tyr Phe Ser
70                               180                               185                               190
71 aaa gct tac ggt gtc cca tct gct tat atc tgg gaa att aac acc gaa      624
72 Lys Ala Tyr Gly Val Pro Ser Ala Tyr Ile Trp Glu Ile Asn Thr Glu
73                               195                               200                               205
74 gaa gaa gga aca cca gat caa att tca tca ttg att gaa aaa cta aaa      672
75 Glu Glu Gly Thr Pro Asp Gln Ile Ser Ser Leu Ile Glu Lys Leu Lys
76                               210                               215                               220
77 gtc atc aag cca tct gcg ctt ttt gta gag tca agt gtc gat aga cgc      720
78 Val Ile Lys Pro Ser Ala Leu Phe Val Glu Ser Ser Val Asp Arg Arg
79 225                               230                               235                               240
80 cct atg gaa act gtt tct aaa gat agt ggt att cct att tat tct gag      768
81 Pro Met Glu Thr Val Ser Lys Asp Ser Gly Ile Pro Ile Tyr Ser Glu
82                               245                               250                               255
83 atc ttt aca gat tca att gct aaa aaa ggt aaa cct ggc gat agt tat      816
84 Ile Phe Thr Asp Ser Ile Ala Lys Lys Gly Lys Pro Gly Asp Ser Tyr
85                               260                               265                               270
86 tat gct atg atg aaa tgg aac ctt gac aaa att tct gaa ggt cta      861
87 Tyr Ala Met Met Lys Trp Asn Leu Asp Lys Ile Ser Glu Gly Leu
88                               275                               280                               285
89 gcaaaataag ataacaataa agcacagcga tt      893
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93 <211> LENGTH: 287
94 <212> TYPE: PRT
95 <213> ORGANISM: Streptococcus pyogenes
97 <400> SEQUENCE: 2
98 Ser Ser Thr Gly Ala Lys Thr Ala Lys Ser Asp Lys Leu Lys Val Val
99 1 5 10 15
100 Ala Thr Asn Ser Ile Ile Ala Asp Met Thr Lys Ala Ile Ala Gly Asp
101 20 25 30
102 Lys Ile Asp Leu His Ser Ile Val Pro Ile Gly Gln Asp Pro His Glu
103 35 40 45
105 Tyr Glu Pro Leu Pro Glu Asp Ala Glu Lys Thr Ser Asn Ala Asp Val
106 50 55 60
107 Ile Phe Tyr Asn Gly Ile Asn Leu Glu Asp Gly Gly Gln Ala Trp Phe
108 65 70 75 80
109 Thr Lys Leu Val Lys Asn Ala Gln Lys Thr Lys Asn Lys Asp Tyr Phe
110 85 90 95
111 Ala Val Ser Asp Gly Ile Asp Val Ile Tyr Leu Glu Gly Ala Ser Glu
112 100 105 110
113 Lys Gly Lys Glu Asp Pro His Ala Trp Leu Asn Leu Glu Asn Gly Ile
114 115 120 125

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115 Ile Tyr Ser Lys Asn Ile Ala Lys Gln Leu Ile Ala Lys Asp Pro Lys
116      130      135      140
117 Asn Lys Glu Thr Tyr Glu Lys Asn Leu Lys Ala Tyr Val Ala Lys Leu
118 145      150      155      160
119 Glu Lys Leu Asp Lys Glu Ala Lys Ser Lys Phe Asp Ala Ile Ala Glu
120      165      170      175
121 Asn Lys Lys Leu Ile Val Thr Ser Glu Gly Cys Phe Lys Tyr Phe Ser
122      180      185      190
123 Lys Ala Tyr Gly Val Pro Ser Ala Tyr Ile Trp Glu Ile Asn Thr Glu
124      195      200      205
125 Glu Glu Gly Thr Pro Asp Gln Ile Ser Ser Leu Ile Glu Lys Leu Lys
126      210      215      220
127 Val Ile Lys Pro Ser Ala Leu Phe Val Glu Ser Ser Val Asp Arg Arg
128 225      230      235      240
129 Pro Met Glu Thr Val Ser Lys Asp Ser Gly Ile Pro Ile Tyr Ser Glu
130      245      250      255
131 Ile Phe Thr Asp Ser Ile Ala Lys Lys Gly Lys Pro Gly Asp Ser Tyr
132      260      265      270
133 Tyr Ala Met Met Lys Trp Asn Leu Asp Lys Ile Ser Glu Gly Leu
134      275      280      285
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137 <211> LENGTH: 27
138 <212> TYPE: DNA
139 <213> ORGANISM: Artificial Sequence
141 <220> FEATURE:
142 <223> OTHER INFORMATION: Description of Artificial Sequence: PCR primer
144 <400> SEQUENCE: 3
145 tagtagcgaa ttcgtcgact ggcgcta 27
147 <210> SEQ ID NO: 4
148 <211> LENGTH: 28
149 <212> TYPE: DNA
150 <213> ORGANISM: Artificial Sequence
152 <220> FEATURE:
153 <223> OTHER INFORMATION: Description of Artificial Sequence: PCR primer
155 <400> SEQUENCE: 4
156 agcacaactc gagaatcgct gtgcttta 28
158 <210> SEQ ID NO: 5
159 <211> LENGTH: 17
160 <212> TYPE: PRT
161 <213> ORGANISM: Streptococcus pyogenes
163 <400> SEQUENCE: 5
164 Lys Gln Leu Ile Ala Lys Asp Pro Lys Asn Lys Glu Thr Tyr Glu Lys
165 1 5 10 15
166 Asn
169 <210> SEQ ID NO: 6
170 <211> LENGTH: 19
171 <212> TYPE: PRT
172 <213> ORGANISM: Streptococcus pyogenes
174 <400> SEQUENCE: 6

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175 Glu Ile Asn Thr Glu Glu Glu Gly Thr Pro Asp Gln Ile Ser Ser Leu

176 1 5 10 15

177 Ile Glu Lys

180 &lt;210&gt; SEQ ID NO: 7

181 &lt;211&gt; LENGTH: 16

182 &lt;212&gt; TYPE: PRT

183 &lt;213&gt; ORGANISM: Streptococcus pyogenes

185 &lt;400&gt; SEQUENCE: 7

186 Glu Ser Ser Val Asp Arg Arg Pro Met Glu Thr Val Ser Lys Asp Ser

187 1 5 10 15

189 &lt;210&gt; SEQ ID NO: 8

190 &lt;211&gt; LENGTH: 21

191 &lt;212&gt; TYPE: PRT

192 &lt;213&gt; ORGANISM: Streptococcus pyogenes

194 &lt;400&gt; SEQUENCE: 8

195 Thr Asp Ser Ile Ala Lys Lys Gly Lys Pro Gly Asp Ser Tyr Tyr Ala

196 1 5 10 15

197 Met Met Lys Trp Asn

198 20

201 &lt;210&gt; SEQ ID NO: 9

202 &lt;211&gt; LENGTH: 13

203 &lt;212&gt; TYPE: PRT

204 &lt;213&gt; ORGANISM: Streptococcus pyogenes

206 &lt;400&gt; SEQUENCE: 9

207 Gln Asp Pro His Glu Tyr Glu Pro Leu Pro Glu Asp Val

208 1 5 10

VERIFICATION SUMMARY

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Input Set : A:\N75768A WO GCW SER DP seq listing Dec99.txt

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L:11 M:270 C: Current Application Number differs, Replaced Application Number

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date